REMARKS

Responsive to the outstanding Office Action, the applicant has carefully studied the references cited by the Examiner and the Examiner's comments relative thereto. Favorable reconsideration of this application is respectfully requested in light of the above amendment and the following detailed discussion.

On page 1 of the outstanding Office Action, the Examiner requires affirmation of the oral election of claim group I, claims 1-18 and 20, which was made by the undersigned on September 10, 2002. In response thereto, applicant hereby affirms the oral election to claim group I, claims 1-18 and 20. Claims 19 and 21-25 have been cancelled, without prejudice, herein.

In response to the Examiner's objections against the claims, claims 1 and 18 have been amended to correct the deficiencies noted by the Examiner. With regard to the Examiner's objection against claim 2 based upon 37 CFR 1.75(c), claim 2 has been cancelled and claim 1 has been reworded to conform to the language of previously pending claim 2. It is believed that all of the Examiner's claim objections have thus been addressed. Claim 1 was originally written to indicate that the coating atmosphere contained a gaseous oxygen scavenger which was not hydrogen in the case where a bismuth oxide layer was present in the coating stack. In order to insure clarity of this claim, the claim has been rewritten in its present form.

Claims 14-16 were rejected under 35 USC §112, second paragraph for being indefinite. The Examiner indicated that claims 14 and 15 contained references to "sheet resistance" which did not have proper antecedent basis. While it is respectfully submitted that sheet resistance is an

inherent property, the claims have been amended for the sake of clarity to indicate that the layers have a sheet resistance. Therefore, it is respectfully submitted that the claims fully comply with the requirements of 35 USC §112, second paragraph.

The Examiner rejected claims 1-13, 17, 18 and 20 under 35 U.S.C. §103 as being unpatentable over Glaser in view of Keskar. Claims 14-16 are rejected under 35 U.S.C. §103 as being unpatentable over Glaser in view of Keskar and further in view of Arhab et al.

Glaser discloses a coated substrate for use in a low emissivity stack, or solar glazing, which comprises a transparent substrate, a lower coating on the transparent substrate, a functional layer on the lower coating, and an upper coating on the functional layer. The lower coating has a first layer comprising silicon or a metal, and nitrogen or oxygen, and a second layer comprising zinc oxide and having a thickness of at least 16 nm. The second layer is in contact with the functional layer. Glazer in no way suggests the use of an oxygen scavenger, and in fact, in example 1, discloses the formation of oxide layers in, an oxygen atmosphere.

Keskar et al. discloses a method for maintaining the temperature of an oxygen selective ion transport membrane within a desired temperature range. Keskar has nothing to do with the formation of reflective metal layers on a substrate, instead dealing with ion transport. The material used as an "oxygen scavenger" in Keskar, in fact, is merely used to reduce partial pressure on the anode (column 1, line 43) by driving oxygen away from the anode. This is not an oxygen scavenger as the term is used in the present invention.

The present invention, as described in amended independent claim 1, describes a process for the production of a coated substrate. The process comprises depositing a reflective metal

layer onto a substrate by a low pressure deposition process performed in a coating atmosphere. It is important to note that the coating atmosphere contains a gaseous oxygen scavenger other than hydrogen.

The Examiner states that Glaser discloses a multi-layer stack produced by sputtering bismuth oxide with silver deposited thereon over a glass substrate. Glaser utilizes hydrogen in the atmosphere. The Examiner acknowledges that Glaser does not utilize an oxygen scavenger gas not containing hydrogen. The Examiner states that Keskar discloses that hydrogen and methane are interchangeable oxygen scavenger gases.

It is respectfully submitted that Glaser only incidentally discloses a process for depositing a reflective metal layer by a low pressure deposition process in the presence of an oxygen scavenger. It is only in Example 1 that the possibility of the use of a scavenger, in this case hydrogen, is used in the atmosphere. There is no disclosure in the Glaser reference of the use of hydrogen as a scavenger, nor in any utility of the presence of hydrogen in the atmosphere. There is thus nothing in this reference to suggest to one skilled in the art the use of an oxygen scavenger in the disclosed process.

Keskar addresses an entirely different issue, i.e. the operation of temperature control in a ceramic membrane reactor. Thus there is no suggestion of the use of an oxygen scavenger in a process for the formation of a coated substrate with a reflective metal layer. Therefore, nothing in Keskar suggests its combination with Glaser, nor does anything in Glaser suggest a combination with Keskar. Absent a suggestion to combine the references, it is respectfully submitted that it is improper for the Examiner to combine these references.

Even if it were proper to combine these references, it is submitted that no reasonable combination of these references would disclose the present invention as claimed in claim 1. It is respectfully submitted that the Kreskar reference in no way shows a process that is carried out in a low pressure process, as envisioned by the present invention and as claimed in claim 1. Keskar uses what is termed as an oxygen scavenger to reduce partial pressure on the anode (column 1, line 43.) This "purge" merely drives oxygen away from the area of the anode. It is respectfully submitted that Kreskar's process are carried out at pressures of 1 to 100 atmospheres (column 9, line 16) which are very different from those carried out at low pressures in the present invention ($2*10^{-3}$ m bar in the examples).

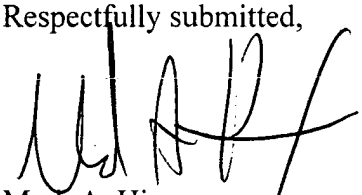
Regarding claims 14- 16, the Examiner also incorporates Arhab into his rejection of these claims. As these are dependent claims, the inclusion of Arhab is irrelevant to the above discussion with regard to the independent claims. However, with regard to claims 14-16, applicants acknowledge in the specification of the present invention that there is a relationship between sheet resistance and emissivity. Arhab merely reiterates this knowledge which is disclosed by applicants. Glaser does not disclose the sheet resistances of the substrates and any attempt to extrapolate the sheet resistances from the disclosure of the emissivities is speculation. Glaser does not suggest that the atmosphere in which the silver layer is deposited can affect emissivity of the layer. It is respectfully submitted that this omission, which could affect the sheet resistance, additionally makes Glaser defective as a reference against the present invention.

In view of the above, it is respectfully submitted that independent claim 1 is not rendered obvious or unpatentable by any reasonable combination of Arhab et al. and Keskar et al. Claims

3-18 and 20 are believed to be allowable at least because of their dependence, directly or indirectly, on what are believed to be an allowable base claim.

In view of the above amendments and remarks, a favorable reconsideration of the present application and the passing of this application to issue with all claims allowed are courteously solicited.

Respectfully submitted,



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